

(b) (6), (b) (7)(C)

From: (b) (6), (b) (7)(C) [REDACTED]@aol.com]  
Sent: Tuesday, July 16, 2013 10:39 PM  
To: (b) (6), (b) (7)(C) [REDACTED]  
Subject: Re: Contact (b) (6), (b) (7)(C) [REDACTED]

Yes, I recall telling them how we would run our proposed on site system at AVA. A part of the system was to daisy wheel resin beds. Meaning we would have one in service while the others were either in standby or regeneration mode.

We were proposing to use a mixed bed media for the cadmium chloride rinse water as part of the recovery process as it was very expensive product to purchase. The mixed bed media requires two treatments to release the product attached. Cationic and anionic resins we use an acid regen (HCl) and a caustic rinse. This created part of the waste to float and the other to sink making for separate and efficient recovery and sent for further processing and eventual crystallization of the valuable cadmium chloride. On spec for us was running 99.9 % purity.

They could recover almost \$4 million in Cadmium chloride from the one present line instead of sending it off for disposal. They kept buying new product because they were more concerned and focused on getting their lines setup before considering the cost of disposal. Suddenly they realized they needed to cut disposal costs as they got rid of more product than they actually applied to the panels at 4x the cost as the resin were exhausted and held concentrated Cadmium chlorides and other impurities. They also used and simply disposed cartridge filter.

I also recall them asking if something other than the hydrochloric acid could be used for regeneration. Our answer was not economically. (b) (6), (b) (7)(C) [REDACTED] was not keen on bringing acids on site. They also began to ask if we would consider putting in a facility in town and they would contract all their waste to us we rejected the idea internally,

On further discussions with AVA we explained the concept of ZLD would be lost if they sent product off site and the local authorities may not look kindly on siting a second facility with the waste risk issues a concern to the public,

Our recommendation was on their property we would think was best for AVA and the local regulators would most likely lean in a favorable direction approving the plan as opposed to moving it off site. (b) (6), [REDACTED] seemed to agree and (b) (6), [REDACTED] and I think a (b) (6), (b) (7)(C) [REDACTED] wanted out of site out of mind mentality over ride (b) (6), [REDACTED]

I wrapped up by reminding them this process would run in total about \$5 million and we would design the vacuum distillation unit to be able to handle the concentrated waste for all 4 eventual lines. When the other three were added the total all in cost would approach \$7 million but that they would recover 99% of the \$20 million they would be tossing if they continued to simply dispose of the resins.

Sorry for any grammar errors I am using my cell as I just checked into my hotel and left the laptop in the car along with the glasses.

Hope this helps. I may have business cards of the attendees from AVA at the house. I know we had follow up meeting in the winter on site when we presented our process. In February they went silent and (b) (6), [REDACTED] stopped answering our request for a meeting by spring.

Also I am not positive but they said they were using either Calgon or Culligan to regen resins for some reason St. Louis or Michigan service centers. I am not at all positive I this last statement.

I will check when I return home.on Friday

That is it for now. (b) (6), (b) (7)(C) and (b) (6), (b) (7)(C) may have better info I hope you can reach them.

Good night,

(b) (6), (b) (7)(C)

Sent from my iPhone-encrypted

On Jul 16, 2013, at 4:31 PM, "(b) (6), (b) (7)(C) @epa.gov" wrote:

(b) (6), (b) (7)(C)

Can you recall any details that were discussed with Abound representatives regarding resin regeneration (I have attached an email for your review)? Specifically, was it ever mentioned who was regenerating the resin and how it was being regenerated?

Thank you,

(b) (6), (b) (7)(C)

Special Agent  
United States Environmental Protection Agency  
Criminal Investigations Division, Mail-Code 8  
1595 Wynkoop St.  
Denver, CO 80202

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Phone: (b) (6), (b) (7)(C)

Fax: (303) 312-6517

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**From:** (b) (6), (b) (7)(C) @aol.com [mailto:(b) (6), (b) (7)(C) @aol.com]

**Sent:** Tuesday, July 16, 2013 1:13 PM

**To:** (b) (6), (b) (7)(C)

**Subject:** Re: Contact (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

It didn't look like the message v card attached in my note to you. Here is the information I have for (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

mobile (b) (6), (b) (7)(C)

fax (970) 482-3999

work (b) (6), (b) (7)(C)

I also did find my notes and mention of DI resins being used to polish water containing Cadmium Chloride that were quickly being exhausted creating great disposal cost. They were letting the mega ohm number climb to 20 ug then would switch to the next bottle of resin. They were set up in what we call a daisy chain with a series of 5 bottles in a chain. This was also when they were only running one production line during initial set up of what Abound (Back then known as AVA Solar) called production line 1. They were to max out production with 4 lines and would be exhausting 20 DI Resin bottles when at full production in short period of time and that was a concern of management thus the reason to look at recycling rinse waters with the Cadmium Chloride.

The date on my note pad is 10/13/08. The team from CASTion was (b) (6), (b) (7)(C) and (b) (6), (b) (7)(C) attended a meeting later in the winter and was not present during information gathering.

Best to you,

(b) (6), (b) (7)(C)

In a message dated 7/16/2013 2:11:00 P.M. Eastern Daylight Time, (b) (6), (b) (7)(C) @epa.gov writes:

Thank you (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

Special Agent  
United States Environmental Protection Agency  
Criminal Investigations Division, Mail-Code 8  
1595 Wynkoop St.  
Denver, CO 80202

Phone: (b) (6), (b) (7)(C)

Fax: (303) 312-6517

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-----Original Message-----

From: (b) (6), (b) (7)(C) [mailto:(b) (6), (b) (7)(C)@aol.com]

Sent: Tuesday, July 16, 2013 11:04 AM

To: (b) (6), (b) (7)(C)

Subject: Contact (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C) contact information in my I-Phone data base.

(b) (6), (b) (7)(C) email.pdf>